INDEX

Kochen W. - In memoriam . . . . . pag. I

Chiancone F.M. - Ricordo di Luigi Musajo . . . . . » III

Chiancone F.M. - A Memory of Luigi Musajo . . . . . » VII

Musajo L. - Old and New Fields of Research on the Tryptophan . . » 1

Kochen W. - Perspectives for ISTRY: Aims and Alternatives . . . » 4

Brown R.R. - Twenty Years of Tryptophan Studies in Humans . . » 12

Hayaishi O. - Indoleamine 2,3-Dioxygenase. A New Vista in Tryptophan Metabolism . . . . . » 17

Riederer P., Bamberg E., Birkmayer W. - On the Determination of Free L-tryptophan . . . . . » 21

Segura J., Gelpí E. - Applications of Gas Chromatography and Mass Spectrometry in Neurochemical Studies: Determination of Indole Amine Profiles at the Picogram Level . . . . . » 25

Dreux C., Bousquet B. - Determination of OH 5 Tryptophan by Chromato-Spectrofluorimetry in Carcinoid Tumors . . . . . » 32

Coppini D. - Development of Analytical Methods for the Detection and Determination of Kynurenic and Xanthurenic Acids . . . . » 35

Oliver R.W.A., Walmsley T.A. - A Thin Layer Chromatographic Method for the Separation and Identification of the Tryptophan Metabolites Present in Whole Human Urine . . . . . » 40

Moon R.J., Morris K.M. - Quantitative Analysis of Tryptophan Metabolites in Urine of Normal and Endotoxin Poisoned Mice . . . » 48

Kanabus P. - Urinary Excretion of 5-Hydroxyindoleacetic Acid and N^1-Methyl-2-Pyridone-5-Carboxamide by Normal and Phenylketonuric Children . . . . . » 52

Byrd D.J., Kochen W., Schürrle L., Trefz F.K. - A Study of Urinary Tryptophan Metabolites in Relation to the Phenylalanine Content of Semi-Synthetic Diets in a Patient with Phenylketonuria . » 55

Godefroy F., Weil-Fugazza J. - Regulation of Plasma Free 5-hydroxytryptamine Level . . . . . » 62

Sicuteri F., Anselmi B., Del Bene E., Galli P. - 5-hydroxytryptamine and Pain Modulation in Man: a Clinical Pharmacological Approach with Tryptophan and Parachlorophenilalanine . . . . » 66

CURZON G. - The Control of Brain Tryptophan Concentration . . . pag. 69

GESSA G.L., BIGGIO G., FADDA F., CORSINI G.U., TAGLIAMONTE A. - Tryptophan-free Diet: a New Means for Rapidly Decreasing Brain Tryptophan Content and Serotonin Synthesis . . . . . » 72

ACKENHEIL M., BLATT B., LAMPART C. - Effect of Clozapine on 5-HIAA Excretion in Urine and CSF of Psychotic Patients and on Serotonin Metabolism in Rat Brain . . . . . » 79

RUCH W., ASPER H., BÜRKI H.R. - Effect of Clozapine on the Metabolism of Serotonin in Rat Brain . . . . . » 85

COCCHI D., DI GIULIO A., GROPPETTI A., MANTEGAZZA P., MÜLLER E.E., SPANO P.F. - Effect of Hypophysectomy and Growth Hormone on Tryptophan and Serotonin Metabolism . . . . . » 90

SOURKES T.L., YOUNG S.N., GARELIS E., LAL S. - Gradients of Concentrations of Tryptophan and 5-hydroxyindoleacetic Acid (HIAA) in Cerebrospinal Fluid (CSF) . . . . . » 97

SICUTERI F., DEL BENE E. - The Influence of Tryptophan and Parachlorophenylalanine on the Sexual Activity in Man . . . . . » 100

LEHMANN J.E. - Tryptophan Deficiency Stupor - Development and Treatment (*) . . . . . » 103

BELL E.D., BULBROOK R.D., HAYWARD J.L., TONG D. - Tryptophan Metabolism and Recurrence Rates of Patients with Breast Cancer after Mastectomy . . . . . » 104

TEULINGS F.A.G., MULDER-KOOY G.E., PETERS H.A., FOKKENS W., VAN DER WERF-MESSING B. - The Excretion of 3-hydroxyanthranilic Acid in Patients with Bladder and Kidney Carcinoma . . » 108

TEULINGS F.A.G., LEMS P.H., PORTENGEN H., HENKELMAN M.S., BLONK D.I. - The Action of 3-hydroxyanthranilic Acid and other Tryptophan Metabolites on Stimulated Human Lymphocytes . . . » 113

WOLF H., BROWN R.R., NYHOLM K. - Studies on Tryptophan Metabolism in Danish Bladder Cancer Patients . . . . . » 117

ABDEL-TAWAB G.A., EL-ZOGHBY S.M., EL-KHOLY Z.A. - Studies on the Effectiveness of Mammalian and Bacterial β-Glucuronidase Enzymes in the Hydrolysis of Urinary β-Glucosiduronides of Some Tryptophan Metabolites Excreted in Urine . . . . . » 123

MAURI C., COPPINI D., SILINGARDI V., PLESSI M. - The Excretion of Tryptophan Metabolites in Patients with Different Forms of Haemoblastosis . . . . . » 132

(*) Abstract

Crepaldi G., Allegri G., De Antoni A., Costa C., Muggeo M. - Relationship between Tryptophan Metabolism and Vitamin B_6 and Nicotinamide in Aged Subjects . . . . . pag. 140

De Antoni A., Rubaltelli F.F., Costa C., Allegri G. - Effect of Phototherapy on the Urinary Excretion of Tryptophan Metabolites in Neonatal Hyperbilirubinemia . . . . . » 145

Brown R.R., Rose D.P., Leklem J.E., Linkswiler H.M. - Effects of Oral Contraceptives on Tryptophan Metabolism and Vitamin B_6 Requirements in Women . . . . . » 151

Calandra P. - Research on Tryptophan Metabolites « Via Kynurenine » in Epidermis of Man and Mouse . . . . . » 158

Binazzi M., Calandra P. - Tryptophan Metabolism in Skin Diseases . » 161

Powanda M.C., Dinterman R.E., Wannemacher R.W. Jr., Beisel W.R. - Tryptophan Metabolism in Relation to Amino Acid Alterations during Typhoid Fever . . . . . » 164

Allegri G., Allegri L., Costa C., De Antoni A., Strauch P. - Studies on Tryptophan Metabolism in Ethylism . . . . . » 169

Hankes L.V. - Influence of Iron and Ascorbic Acid on Tryptophan Metabolism in Man . . . . . » 174

Kochen W., Bührlen E., Byrd D.J. - Tryptophan Metabolism in Untreated Phenylketonuria . . . . . » 177

Brune G.G., Pflughaupt K.W. - Tryptophan Metabolism in Nervous Disease . . . . . » 185

Shibata Y., Nishimoto Y., Takeuchi F., Tatsuma Y. - Tryptophan Metabolism in Various Nutritive Conditions . . . . . » 190

Igari T., Obara K., Ono S., Toba Y. - Tryptophan Metabolism in the Joint Diseases . . . . . » 194

Verjee Z.H.M. - Tryptophan Metabolism in Baboons: Effect of Riboflavin and Pyridoxine Deficiency . . . . . » 198

Cozzolino G., Campriani S., Campanelli G. - Tryptophan/Nicotinic Acid Pathway during Levodopa Treatment of Parkinsonism . . » 202

Sacchetti E., Altamura A.C., Smeraldi E., Zibetti A. - N'-methyl Nicotinamide Urinary Output in Multiple Sclerosis affected Patients . . . . . » 206

Bouthier A. - Nature and Biosynthesis of Ommochromes in Locusta migratoria cinerascens Fabr. (Orthoptera, Acrididae) and Its albino Mutant . . . . . » 210

UMEBACHI Y. - Yellow Pigments in the Wings of Papilio xuthus (Papilionid Butterfly) . . . . . pag. 219

COSTA C., ALLEGRI G., DE ANTONI A. - Studies on Melanogenesis of Tryptophan in Harding-Passey Mouse Melanoma . . . . . » 223

OKAMOTO H. - Effect of Quinaldic Acid and Its Relatives on Insulin-Release from Isolated Langerhans Islets . . . . . » 227

POGSON C.I., CRISP D.M., SMITH S.A. - Effect of Tryptophan and Its Metabolites on Gluconeogenesis in Mammalian Tissues . . . » 232

KOTAKE Y., UEDA T., MORI T., IGAKI S., HATTORI M. - Abnormal Tryptophan Metabolism and Experimental Diabetes by Xanthurenic Acid (XA) . . . . . » 236

MURAKAMI E. - Purification of Xanthurenic Acid-Insuline Complex . » 240

VERONESE F.M., FONTANA A., BOCCÙ E. - Selective Separation of Tryptophan Derivatives using Sulfenyl Halides . . . . . » 243

YAMADA H., YOSHIDA H., NAKAZAWA H., KUMAGAI H. - Microbiological Synthesis of L-tryptophan and Its Related Amino Acids . . » 248

REINKEN L. - The Influence of Antiepileptic Drugs on Vitamin B_6 Metabolism . . . . . » 252

BAUMANN P., SCHMOCKER M., REYERO F., HEIMANN H. - Free and Bound Tryptophan in the Blood of Depressives . . . . . » 255

STREFFER C. - The Contribution of Tryptophan to the Regulation of the NAD^+ Level in Mouse Liver . . . . . » 262

BOCCÙ E., VERONESE F.M., FONTANA A., BENASSI C.A. - Studies on the Function of Tryptophan-108 on Lysozyme . . . . . » 266

FONTANA A., VERONESE F.M., BOCCÙ E. - Labelling of the Indole Nucleus of Tryptophan at the 2-position . . . . . » 270

SRIVASTAVA A.K., AZHAR S., KRISHNA MURTI C.R. - Tryptophan Metabolism in Cicer arietinum . . . . . » 275

ISHIGURO I., NAITO J., SHINOHARA R. - Studies on the Metabolic Pathway of Anthranilic Acid in Rats . . . . . » 278

SATOH T. - Activation of Tryptophan Pyrrolase by Benzylhydrazine . . » 283

FRANZ J.M., ROPER M.D., VAN SOEST M.E., TUMBLESON M.E. - Tryptophan Oxygenase: Developmental and Comparative Studies (*) » 287

(*) Abstract

HIRATA F., NOMIYAMA S., HAYAISHI O. - Indoleamine 2,3-Dioxygenase. Note I. Catalytic and Molecular Properties . . . . . pag. 288

HAYAISHI O., HIRATA F., FUJIWARA M., SENOH S., TOKUYAMA T. - Indoleamine 2,3-Dioxygenase. Note II. Biological Function . . . » 291

GHOSH D., BRANCH M. - Triamterene and Mouse Liver Tryptophan Pyrrolase: Possible Activation of Cytosol by the Pteridine in Enhacing Enzymic Activity . . . . . » 294

YOUNG S.N., SOURKES T.L. - The Rate of Tryptophan Oxidation by Tryptophan Pyrrolase in the Rat: Effect of Tryptophan Loads and Changes in Tryptophan Pyrrolase Activity . . . . . » 299

KRISCH K., ARNDT R., JUNGE W., MENGE U., MICHELSSEN K. - Purification and Some Properties of Formamidase from Rat and Pig Liver » 302

KIDO R., NOGUCHI T. - Subcellular Distribution and Properties of Rat Liver Kynurenine Transaminase . . . . . » 307

MASON M., TOBES M.C., MANNING B. - Factors Affecting the Access of Mitochondrial Kynurenine Aminotransferase to its Substrates » 313

MUSAJO L., ALLEGRI G., DE ANTONI A., COSTA C. - The Problem of Some Naturally occuring Substances and Their Correlated Compounds interfering with B_6-dependent Enzyme Activities Involved in Tryptophan Degradation. Xanthurenic Acid Accumulations in B_6-deficiency . . . . . » 318

ABDEL-TAWAB G.A., EL-ZOGHBY S.M., SAAD A.A. - Relationship between Pyridoxal Phosphate and Some Synthetic Oestrogens, Gonadotropin and Thyroxine in Their Effects on Kynurenine Hydrolase and Kynurenine Aminotransferase Enzymes of Normal Mouse Liver . . . . . » 326

GAERTNER F.H., SHETTY A.S. - Hydroxykynureninase and the Excretion of 3-hydroxyanthranilate by Yeast . . . . . » 332

SODA K., MORIGUCHI M., TANIZAWA K. - Regulation of the Activity of Microbial Kynureninase by Transamination of the Enzyme-bound Coenzyme . . . . . » 335

DE ANTONI A., COSTA C., ALLEGRI G. - Studies on 3-Hydroxykynureninase from Rat Liver . . . . . » 339

KIDO R., NOGUCHI T., MINATOGAWA Y. - Enzymic Studies on the Metabolism of 5-hydroxyindoles in the Brain . . . . . » 344

Authors' Index

	pag.
ABDEL-TAWAB G.A.	123, 326
ACKENHEIL M.	79
ALLEGRI G.	140, 145, 169, 223, 318, 339
ALLEGRI L.	169
ALTAMURA A.C.	206
ANSELMI B.	66
ARNDT R.	302
ASPER H.	85
AZHAR S.	275
BAMBERG E.	21
BAUMANN P.	255
BEISEL W.R.	164
BELL E.D.	104
BENASSI C.A.	266
BIGGIO G.	72
BINAZZI M.	161
BIRKMAYER W.	21
BLATT B.	79
BLONK D.I.	113
BOCCÙ E.	243, 266, 270
BOUSQUET B.	32
BOUTHIER A.	210
BRANCH M.	294
BROWN R.R.	12, 117, 151
BRUNE G.G.	185
BÜHRLEN E.	177
BULBROOK R.D.	104
BÜRKI H.R.	85
BYRD D.J.	55, 177
CALANDRA P.	158, 161
CAMPANELLI G.	202
CAMPRIANI S.	202
CHIANCONE F.M.	III, VII
COCCHI D.	90
COPPINI D.	35, 132
CORSINI G.U.	72
COSTA C.	140, 145, 169, 223, 318, 339
COZZOLINO G.	202
CREPALDI G.	140
CRISP D.M.	232
CURZON G.	69
DE ANTONI A.	140, 145, 169, 223, 318, 339
DEL BENE E.	66, 100
DI GIULIO A.	90
DINTERMAN R.E.	164
DREUX C.	32
EL-KHOLY Z.A.	123
EL-ZOGHBY S.M.	123, 326
FADDA F.	72
FOKKENS W.	108
FONTANA A.	243, 266, 270
FRANZ J.M. (*)	287
FUJIWARA M.	291
GAERTNER F.H.	332
GALLI P.	66
GARELIS E.	97
GELPÍ E.	25
GESSA G.L.	72
GHOSH D.	294
GODEFROY F.	62
GROPPETTI A.	90
HANKES L.V.	174
HATTORI M.	236
HAYAISHI O.	17, 288, 291
HAYWARD J.L.	104
HEIMANN H.	255
HENKELMAN M.S.	113
HIRATA F.	288, 291
IGAKI S.	236
IGARI T.	194
ISHIGURO I.	278
JUNGE W.	302
KANABUS P.	52
KIDO R.	307, 344
KOCHEN W.	I, 4, 55, 177
KOTAKE Y.	236
KRISCH K.	302
KRISHNA MURTI C.R.	275
KUMAGAI H.	248
LAL S.	97
LAMPART C.	79
LEHMANN J.E. (*)	103
LEKLEM J.E.	151
LEMS P.H.	113
LINKSWILER H.M.	151
MANNING B.	313
MANTEGAZZA P.	90
MASON M.	313
MAURI C.	132
MENGE U.	302
MICHELSSEN K.	302
MINATOGAWA Y.	344
MOON R.J.	48
MORI T.	236
MORIGUCHI M.	335
MORRIS K.M.	48
MUGGEO M.	140
MULDER-KOOY G.E.	108
MÜLLER E.E.	90
MURAKAMI E.	240
MUSAJO L.	1, 318
NAITÒ J.	278
NAKAZAWA H.	248
NISHIMOTO Y.	190
NOGUCHI T.	307, 344
NOMIYAMA S.	288

(*) Abstract

(*) Abstract

	pag.
NYHOLM K.	117
OBARA K.	194
OKAMOTO H.	227
OLIVER R.W.A.	40
ONO S.	194
PETERS H.A.	108
PFLUGHAUPT K.W.	185
PLESSI M.	132
POGSON C.I.	232
PORTENGEN H.	113
POWANDA M.C.	164
REINKEN L.	252
REYERO F.	255
RIEDERER P.	21
ROPER M.D. (*)	287
ROSE D.P.	151
RUBALTELLI F.F.	145
RUCH W.	85
SAAD A.A.	326
SACCHETTI E.	206
SATOH T.	283
SCHMOCKER M.	255
SCHURRLE L.	55
SEGURA J.	25
SENOH S.	291
SHETTY A.S.	332
SHIBATA Y.	190
SHINOHARA R.	278
SICUTERI F.	66, 100
SILINGARDI V.	132
SMERALDI E.	206
SMITH S.A.	232
SODA K.	335
SOURKES T.L.	97, 299
SPANO P.F.	90
SRIVASTAVA A.K.	275
STRAUCH P.	269
STREFFER C.	262
TAGLIAMONTE A.	72
TAKEUCHI F.	190
TANIZAWA K.	335
TATSUMA Y.	190
TEULINGS F.A.G.	108, 113
TOBA Y.	194
TOBES M.C.	313
TOKUYAMA T.	291
TONG D.	104
TREFZ F.K.	55
TUMBLESON M.E. (*)	287
UEDA T.	236
UMEBACHI Y.	219
VAN DE WERF-MESSING B.	108
VAN SOEST M.E. (*)	287
VERJEE Z.H.M.	198
VERONESE F.M.	243, 266, 270
WALMSLEY T.A.	40
WANNEMACHER R.W. jr.	164
WEIL-FUGAZZA J.	62
WOLF H.	117
YAMADA H.	248
YOSHIDA H.	248
YOUNG S.N.	97, 299
ZIBETTI A	206

(*) Abstract

(*) Abstract

Subject Index

	pag.
Anthranilic acid, metabolism of	278
Ascorbic acid, influence on tryptophan metabolism of	174
Clozapine, effect on 5-hydroxyindoleacetic acid excretion and on serotonin metabolism of	79
–, effect on metabolism of serotonin of	85
Formamidase, purification and properties of	302
Gluconeogenesis, effect of tryptophan and its metabolites on	232
3-Hydroxyanthranilic acid, action on stimulated human lymphocytes of	113
–, excretion in bladder and kidney carcinoma of	108
–, hydroxykynureninase and excretion of	332
5-Hydroxyindoleacetic acid, concentration in cerebrospinal fluid of	97
–, effect of clozapine on excretion of	79
–, urinary excretion of	52
5-Hydroxyindoles, metabolism of	344
Hydroxykynureninase, 3-hydroxy-anthranilate and	332
–, studies on	339
5-Hydroxytryptamine, in plasma regulation of	62
–, pain modulation in man and	66
5-Hydroxytryptophan, determination of	32
Indole amine, gas chromatography and mass spectrometry determination of	25
Indoleamine 2,3-dioxygenase	17
–, biological function of	288
–, catalytic and molecular properties of	288
Insuline, effect of quinaldic acid and its relatives on release of	227
Insuline-xanthurenic acid complex, purification of	240
Iron, influence on tryptophan metabolism of	174
ISTRY, aims and alternatives	4

pag.

Kynureninase, regulation of 335
Kynurenic acid, analytical methods of determination of 35
Kynurenine aminotransferase, access to its substrates of 313
–, effect of pyridoxal phosphate and hormones on kynurenine hydrolase and . . 326
Kynurenine hydrolase, effect of pyridoxal phosphate and hormones on kynurenine aminotransferase and 326
Kynurenine pyruvate transaminase, specific inhibitor of 344
Kynurenine transaminase, distribution and properties of 307
Levodopa, tryptophan metabolism and Parkinsonism treatment with 202
NAD, contribution of tryptophan to the regulation of 262
Nicotinamide, tryptophan metabolism relationship in aged subjects 140
N¹-methyl nicotinamide, urinary output in multiple sclerosis of 206
N¹-methyl-2-pyridone-5-carboxamide, urinary excretion of 52
Ommochromes, nature and biosynthesis of . 210
Parachlorophenilalanine, 5-hydroxytryptamine in pain modulation and 66
–, influence on the sexual activity of . . 100
Quinaldic acid, effect on insuline release of 227
Riboflavin deficiency, effect on tryptophan metabolism in baboons of 198
Serotonin, brain tryptophan content and synthesis of 72
–, effect of clozapine on metabolism of . 79, 85
–, effect of hypophysectomy and growth hormone on metabolism of 90
Tryptophan, blood level in depressives of . 255
–, brain concentration of 69
–, brain content and serotonin synthesis . 72
–, concentration in cerebrospinal fluid of . 97
–, determination of 21
–, effect of hypophysectomy and growth hormone on metabolism of 90
–, effect on gluconeogenesis of 232
–, 5-hydroxytryptamine in pain modulation and 66
–, influence on the sexual activity of . . 100
–, labelling of indole nucleus of . . . 270
–, melanogenesis in Harding-Passey mouse melanoma of 223
–, microbiological synthesis of 248
–, old and new fields of research . . . 1
–, regulation of NAD⁺ level in mouse liver by 262
–, stupor and deficiency of 103
–, twenty years of studies in humans . . 12
Tryptophan-108, function on lysozyme of . 266
Tryptophan derivatives, selective separation of 243
Tryptophan metabolism, aminoacid alterations during typhoid fever and 164

pag.

–, effect of riboflavine and pyridoxine deficiency in baboons on 198
–, in breast cancer 104
–, in Cicer Arietinum 275
–, indoleamine 2,3-dioxygenase, a new vista in 17
–, in experimental diabetes 236
–, influence of iron and ascorbic acid on . 174
–, in joint diseases 194
–, in nervous disease 185
–, in Parkinsonism 202
–, in phenylketonuria 177
–, in skin diseases 161
–, in various nutritive conditions . . . 190
–, relationship between - and vitamin B_6 and nicotinamide 140
–, studies in Danish bladder cancer patients of 117
–, studies in ethylism on 269
–, vitamin B_6 requirements and effects of contraceptives on 151
Tryptophan metabolites, action on stimulated human lymphocytes of 113
–, a study in phenylketonuria of . . . 55
–, determination of - in urine of mice . . 48
–, effect of phototherapy in hyperbilirubinemia on 145
–, effect on gluconeogenesis of 232
–, excretion in haemoblastosis of . . . 132
–, hydrolysis of urinary β-glucosiduronides of 123
–, research in epidermis of man and mouse on 158
–, separation and identification of . . . 40
Tryptophan oxygenase, developmental and comparative studies of 287
Tryptophan pyrrolase, activation of . . 283, 294
–, effect of tryptophan loads on activity of 299
Vitamin B_6, effects of contraceptives on tryptophan metabolism and requirements of . 151
–, Kynurenine hydrolase and kynurenine aminotransferase relationship between oestrogens, gonadotropin and thyoxine and . 326
–, tryptophan metabolism and - in aged subjects 140
–, xanthurenic acid accumulation in deficiency of 240
Vitamin B_6 deficiency. effect on tryptophan metabolism in baboons of 198
Vitamin B_6 metabolism, influence of antiepiletic drugs on 252
Xanthurenic acid, accumulation in B_6-deficiency of 318
–, analytical methods of determination of . 35
–, tryptophan metabolism and experimental diabetes by 236
Xanthurenic acid - insulin complex, purification of 340
Yellow pigments, presence in *Papilio Xuthus* wings of 219